

OBITUARIES

HELMUT SCHMIDT 1928–2011

BY MARILYN SCHLITZ

Bold. Brilliant. Creative. Generous and compassionate when he nurtured budding researchers into breathtaking new frontiers. Quiet though animated when he communicated to colleagues about the mysteries of the universe and our place in it. Helmut Schmidt was a pioneer who forged new scientific territory with a sense of unlimited possibilities.

Schmidt was born on February 22, 1928 in Danzig, Germany. He grew up in Germany, where he received his degrees in mathematics and physics from the Universities in Goettingen and Cologne. It was there that he met his wife, Klare, with whom he shared his life for 56 years and for whom he always exuded great affection and boundless devotion.

A dynamic teacher, Schmidt taught theoretical physics at universities in Germany; Vancouver, Canada; and the United States. He settled in the US in 1965 with Klare and their three children. At this time he became a senior scientist at the Boeing Research Laboratory in Seattle, Washington. He remained there until 1969, when he committed himself full time to parapsychological research.

Schmidt was one of the first physicists to apply modern technology to the study of psi phenomena. Perhaps his greatest contributions were the development of quantum-based electronic random number generators (RNG) to allow for the rigorous study of psychokinesis (mind-matter interaction), and for the development of ingenious protocols that allowed proponents and skeptics to directly collaborate in psi experiments.

The quixotic physicist formally began his parapsychology career at the Institute for Parapsychology in Durham, North Carolina. He served as director from 1969 to 1974. He then moved to the Mind Science Foundation in San Antonio, Texas, where he maintained a highly productive career at the research foundation from 1974 until his retirement in 1993. At that time, he moved with his wife to Las Vegas, New Mexico, where he enjoyed hiking, reading, classical music, and maintaining his interest in psi research.

Schmidt's early psi experiments involved machines that were based on truly random events. In studies published in the late 1960s, Schmidt explored possible precognition effects as well as psychokinesis. The device for his initial experiments was a four-button quantum mechanical random number generator (RNG) encased in a box, built by Schmidt. The random generator was made up of a radioactive source (strontium 90), a Geiger counter, and a four-step electronic switch controlling four lamps. The Geiger counter responded to ionizing particles emitted from the strontium 90

at random times. A high frequency pulse generator advanced the switch rapidly through the four positions. When a gate between the Geiger counter and the four-step switch opened, the next particle that reached the Geiger counter stopped the switch in one of its four positions and illuminated the lamp corresponding to that position.

In the experiments, the participant pressed a button recording a guess on the automated testing device. The experimental volunteer, including early pilot experiments with his daughter, Karin, was instructed to press a button on the box to predict which of the four target alternatives the RNG was about to select, or to influence which light was about to be illuminated. Immediate feedback was provided to the participant when one of the four colored lamps lit up. The probability in this elegant device was 1 in 4 that the test participant would score correctly by chance alone. Schmidt reported significant success rates of 1–2% above mean chance expectation. While small in magnitude, the implications of Schmidt's work are revolutionary, suggesting a fundamental link between mind and matter.

Schmidt was always guided by his training as a theoretical physicist. Building on the observer effect in quantum mechanics, Schmidt used this theory to direct his experimental research—long before the quantum realm became fashionable or trendy in popular culture.

Rather than seeing psychokinesis as a kind of force or power, Schmidt adopted a goal-oriented approach. He understood subatomic events to be in an indeterminate state of superposition in which they remained until a measurement or observation was made. This followed the orthodox Copenhagen interpretation of quantum mechanics, in which theory suggests that a point of observation may lead to a collapse of the state vector in the mathematical equations. Where Schmidt's work diverged from orthodox quantum physics, however, was in challenging the idea that living systems are powerless to influence particular values of the observed event. Instead, Schmidt proposed that living operators may be able to bias the outcome of random events through a goal-oriented, focused intention.

Perhaps his most extraordinary contribution was in using prerecorded random numbers in studies exploring how random events might be influenced by observation from the future. This "retrocausal-psychokinesis" work was based on the idea of retrocausality and time-symmetry. While such concepts may be startling from an everyday perspective, they are formalized in all of the fundamental equations of classical and quantum mechanics, and are taken seriously in theoretical physics.

In these studies, Schmidt recorded unobserved random bits on a hard drive, and then invited experimental participants to observe the random events (presented as lights or sounds) at a later time. The assigned intention was for the participants to skew the random events in one pre-specified direction or another. These studies confirmed the presence of a retrocausal effect, suggesting that psychokinesis may occur "outside" of ordinary space-time.

Schmidt also had a strong conviction that the mindset of his participants was important to the experimental outcomes. In one experiment that Schmidt and I conducted together in the mid 1980s, the hypothesis was that people who had trained in some mental discipline, either meditation or martial arts, would do better than those who had no such attention or intention training. The results showed that the training did correlate with success in biasing the random events.

Schmidt posited that it was not just human observers who could bias the outcomes of random event generators. Over decades, he carried out a series of experiments involving animal subjects. Maintaining his goal-oriented hypothesis, he rewarded the animals for influencing the binary outcomes in one direction or another by warming them or offering food as an incentive. While small but statistically significant effects were again reported, some researchers began to speculate that it was Schmidt himself who was the source of the PK effects.

Because Schmidt's data were controversial, his studies frequently came under skeptical review. Psychologist C. E. M. Hansel, for example, suggested that Schmidt's experimental designs were not adequate to prevent cheating by Schmidt himself. Fellow skeptic, psychologist Ray Hyman responded to Hansel's critique by arguing that a charge of possible fraud is "a dogmatism that is immune to falsification." Schmidt found the value in both perspectives, always working to improve his methods and increase the magnitude of the subtle effects he obtained. He was meticulous in his research design, always taking care to rule out artifacts or human error and running endless randomness checks on the electronic devices.

Indeed, one of his great ambitions was to find a fraud-proof experiment that even the skeptical minded scientist could collaborate in. A great opportunity for him came when he met Henry Stapp, a well-respected theoretical physicist from Lawrence Berkeley Laboratory. As Stapp wrote in a paper in the prestigious journal *Physical Review A*, he was eager to test his own controversial theory that offers a way of "modifying the basic equations of quantum theory to permit people to influence things that happened in the past." In particular, Stapp sought to establish the role that consciousness plays in the outcome of quantum measurements. In Schmidt's experiments, Stapp argued that there was a possible quantum link between the brain/mind of the observer and the random generator.

The collaborative study between Stapp and Schmidt made use of random data that were recorded but not observed several months before the experiment began. Participants were carefully selected by Schmidt based on their study of martial arts. The students were instructed to mentally influence the random sequence associated with a visual light display. In the experiment, it was theorized that the superposition of the random events would have remained in an indeterminate state until the students viewed the feedback—their intention skewing the results of the random generator, backward in time.

As a control against potential experimenter fraud, Stapp acted as an independent monitor in the study. It was his task to assign the direction in which the martial arts students would attempt to shift the random sequence. Schmidt, who analyzed the data after the observations were completed, was kept blind to this important detail. The study produced a result that had a less than 1 in 1,000 probability of occurring by chance, well within the range of significance that would (under less controversial circumstances) lead mainstream science to reject the null hypothesis.

Stapp acknowledged in his 1994 theory paper that the results of such RNG-PK experiments are generally looked upon with skepticism by the scientific community. In his words:

But at least part of this skepticism originates not from specific challenges to the protocols and procedures of the works ... but from the belief that such results are not compatible with well-established principles of physics, and hence to be excluded on theoretical grounds. However, it turns out that small modifications of the standard quantum principles would allow some of the most impossible sounding of the reported phenomena to be accommodated. (p. 18)

Another aspect of Schmidt's work that was controversial was his conviction that the mindset of the experimenter was important to the outcome of the study. In an interview I conducted with him in the mid 1980's, we discussed his mental preparation before starting an experiment. First, he was meticulous about setting up the experimental details. Once the mechanical portion of the design was complete, he would take long walks, clear his mind, listen to classical music, and approach the experiment with an attitude of possibility. He believed that the best results came if one connected emotionally with the machine, bridging the gulf between the inner world of subjectivity and the objective world of technology. Focused intention with a clear goal was key to success, based on his experience over decades of psi research.

Like his predecessors, Frederic Myers, Henry Sidgwick, William James, and J. B. Rhine, Schmidt had little tolerance for the vulgar popularization of psychic events. Parlor room games were anathema to his rigorous stance. Having once participated in an uncontrolled spoon bending party, Schmidt walked out in anger and frustration. Having dedicated his life to the most rigorous types of protocols and a commitment to the serious study of psi phenomena, he had no interest in anything that suggested a lack of discernment.

Schmidt was never one who needed the limelight. In fact, while he can be credited with inventing random event generators that have been adapted to scientific studies in many parapsychology (and mainstream)

laboratories, Schmidt never sought credit or glory. Years after Schmidt's devices were in use in numerous labs, his design was patented by others who cited his work in the patent document but did not acknowledge him as the key inventor. Schmidt preferred to quietly and unassumingly work away to develop the next study, the next research protocol, the next opening to our understanding of what our minds are capable of accomplishing.

As evidence of his contributions, Schmidt's work has been replicated by numerous researchers across the world. A meta-analysis examining the entire database of RNG-PK studies supports Schmidt's original findings. In a review of more than 800 such studies from 68 laboratories, the investigators came to the conclusion that "under certain circumstances, consciousness can interact with random physical systems." The full implications of this work have yet to be understood, but it suggests that conventional assumptions about the role of consciousness in the physical world are incomplete, probably in fundamental ways.

Helmut H. W. Schmidt passed away on August 18, 2011, after a lengthy and courageous battle with cancer. He was 83. He died peacefully in the presence of his loving wife and his two sons. He is survived by his wife, his sons Jürgen and Rüdiger Schmidt and their families of San Antonio, Texas, his daughter Karin Schmidt of Anchorage, Alaska, and his beloved dog, Pepper. May his contributions long be remembered as a resounding shot heard round the world.

Reference

- Stapp, H. (1994). Theoretical model of a purported empirical violation of the predictions of quantum theory. *Physical Review A*, 50, 18–22.

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